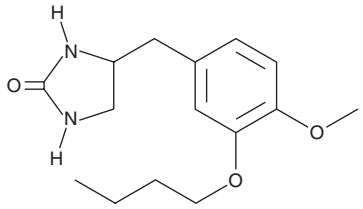
PRODUCT INFORMATION

Ro 20-1724

Item No. 18272

CAS Registry No.:	29925-17-5
Formal Name:	4-[(3-butoxy-4-methoxyphenyl) methyl]-2-imidazolidinone
Synonym:	4-(3-Butoxy-4-methoxybenzyl)-2-imidazolidinone
MF:	$C_{15}H_{22}N_2O_3$
FW:	278.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 230, 280 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ro 20-1724 is supplied as a crystalline solid. A stock solution may be made by dissolving the Ro 20-1724 in the solvent of choice, which should be purged with an inert gas. Ro 20-1724 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Ro 20-1724 in ethanol and DMSO is approximately 25 mg/ml and approximately 30 mg/ml in DMF.

Ro 20-1724 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Ro 20-1724 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Ro 20-1724 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ro 20-1724 is a cell-permeable, cAMP-specific phosphodiesterase type IV (PDE4) inhibitor (IC_{50} = 2 µM).[1,2] It weakly inhibits PDE3 with a K_i value greater than 25 µM.[1] Ro 20-1724 inhibits the release of cytokines and other inflammatory signals as well as prevents the development of reactive oxygen species.[3] It is often used to study cAMP-related functions in vascular cells.[4]

References

1. Reeves, M.L., Leigh, B.K., and England, P.J. The identification of a new cyclic nucleotide phosphodiesterase activity in human and guinea-pig cardiac ventricle. Implications for the mechanism of action of selective phosphodiesterase inhibitors. *Biochem. J.* **241**, 535-541 (1987).
2. Soderling, S.H., Bayuga, S.J., and Beavo, J.A. Cloning and characterization of a cAMP-specific cyclic nucleotide phosphodiesterase. *Proc. Natl. Acad. Sci. USA* **95**, 8991-8996 (1998).
3. Totani, L., Piccoli, A., Dell'Elba, G., *et al.* Phosphodiesterases type-4 blockade prevents platelet-mediated neutrophil recruitment at the site of vascular injury. *Arterioscler. Thromb. Vasc. Biol.* **34(8)**, 1689-1696 (2014).
4. Zhai, K., Hubert, F., Nicolas, V., *et al.* β-Adrenergic cAMP signals are predominantly regulated by phosphodiesterase type 4 in cultured adult rat aortic smooth muscle cells. *PLoS One* **7(10)**, 1-13 (2012).

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